IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:	GREFENSTEIN ET AL.	DOCKET NO.:	47587/48070
SERIAL NO.:	08/987,775	CONFIRMATION NO.:	6702
FILING DATE:	12/09/1997	EXAMINER:	KRUER, KEVIN R.
CUSTOMER NO.:	26474	ART UNIT:	1773

FOR: UV-STABLE LAMINATES AND MOLDINGS THEREOF HAVING THERMAL AGING RESISTANCE

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Sir:

This is an appeal from the Examiner's non-final rejection of Claims 24, 26, 30, 31, 34, 41 and 43, dated September 28, 2006. Claims 24, 26, 30, 31, 34, 41 and 43 are currently pending.

The fee set forth in 37 C.F.R. § 41.20(b)(2) is paid by credit card. Form PTO-2038 is enclosed. Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees, to Deposit Account 14.1437. Please credit any excess fees to such account.

Respectfully submitted,
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REAL PARTY IN INTEREST:

The real party in interest is BASF Aktiengesellschaft, of Ludwigshafen, Germany.

RELATED APPEALS AND INTERFERENCES:

To the best of the undersigned's knowledge, there are no related interferences or judicial proceedings within the meaning of 37 C.F.R. §1.192(c).

STATUS OF CLAIMS:

- Claims 24, 26, 30, 31, 34, 41 and 43 are pending in the application
- Claims 24, 26, 30, 31, 34, 41 and 43 stand rejected.
- Claims 1 – 23, 25, 27 – 29, 32 – 33, 35 – 40, and 42 are canceled.

STATUS OF AMENDMENT:

No amendment was filed subsequent to the non-final rejection dated September 28, 2006.

SUMMARY OF CLAIMED SUBJECT MATTER:

The claimed invention relates to laminated sheets or films[1] particularly suited for exterior use where they are subject to UV radiation and the effects of weather[2], for example, as exterior bodywork parts in the automotive sector.[3]

The independent claims involved in the appeal are claims 24, 41 and 43. All other claims are dependent on claim 24. Summary of the subject matter of the dependent claims is omitted as unnecessary.

Independent Claim 24

The invention according to independent claim 24 is directed to a laminated sheet or film[4] comprising the following (co)extruded[5] layers:

a substrate layer[6],

a transparent top layer of polymethyl methacrylate[7], and

optionally between the top layer and the substrate layer a (co)extruded interlayer.[8]

The substrate layer comprises components A, B, C and optionally D.[9]

Component A of the substrate layer is a graft copolymer having a mean particle size of 50 – 1000 nm.[10] Component A comprises a particulate graft base (A1) and a graft (A2).[11]

Component B of the substrate layer is a copolymer of component B1 and component B2[12].

Component C of the substrate layer is a polycarbonate.[13]

Component D of the substrate layer is a fibrous or particulate filler or mixtures thereof.[14]

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[1] Specification: page 1, line 11.
[2] Specification: page 6, lines 17 – 18.
[3] Specification: page 1, line 18.
[4] Specification: page 1, line 11.
[5] Specification: page 27, lines 14 - 15.
[6] Specification: page 4, line 3 – page 5, line 17.
[7] Specification: page 24, line 10 – page 25, line 8.
[8] Specification: page 22, line 23 – page 24, line 3.
[9] Specification: page 6, lines 26 - 27.
[10] Specification: page 7, line 18.
[11] Specification: page 6, line 29 – page 15, line 3.
[12] Specification: page 15, lines 5 – page 17, line 16.
[13] Specification: page 17, line 18 – page 19, line 6.

Independent Claim 41

The invention according to independent claim 41 is directed to a laminated sheet or film comprising the following (co)extruded layers:

a substrate layer that is identical to the substrate layer of claim 24,

a transparent layer of polymethyl methacrylate[15], and

a transport protection film applied to the outside of said layer of polymethyl methacrylate.[16]

Independent Claim 43

The invention according to independent claim 43 is directed to a laminated sheet or film comprising the following (co)extruded layers:

a substrate layer that is identical to the substrate layer of claim 24,

a transparent top layer[17] of styrene-acrylonitrile copolymer[18], and optionally

a (co)extruded interlayer[19] of a styrene-acrylonitrile copolymer.[20]

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[14] Specification: page 19, line 8 – page 20, line 6.
[15] Specification: page 24, line 10 – page 25, line 8.
[16] Specification: page 27, lines 1 – 10.
[17] Specification: page 24, line 10 – page 25, line 8.
[18] Specification: page 25, line 3.
[19] Specification: page 22, line 23 – page 24, line 8.
[20] Specification: page 24, lines 2 – 3.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether the examiner erred in rejecting:

A. Claims 24, 26, 30, 31 and 41 as allegedly obvious over **Fischer et al. (US 5,747,568)** in view of **Sallmetall (WO96/09928)** and **Yutaka (JP 61-026646);**

B. Claims 24, 26, 30, 31, 34 and 41 as allegedly obvious over **Fischer et al.** in view of **Ellison (US 5,985,079)** and **Yutaka**;

C. Claims 24, 26, 31 and 41 as allegedly obvious over **Fischer et al.** in view of **Endoh (EP006421)** and **Yutaka;** Claim 30 also stands rejected as allegedly being obvious over this combination of references in further view of **Tsai et al. (US 5,858,550).**

D. Claim 43 as allegedly obvious over **Fischer et al.** in view of **Zabrocki et al. (US 5,306,548)** or **McDonagh (US 4,169,180)** and **Yutaka;**

E. Claims 24, 26, 30, 31 and 41 as allegedly obvious over **Rosenau et al. (US 5,821,302)** in view of **Ellison**;

F. Claims 24, 26, 30 and 31 as allegedly obvious over **Rosenau et al.** in view of **Trabert et al. (US 5,318,737)**;

G. Claims 24, 26, 30, 31 and 41 as allegedly obvious over **Rosenau et al.** in view of **Endoh;**

H. Claim 43 as allegedly obvious over **Rosenau et al.** in view of **Zabrocki et al.** or **McDonagh.**

ARGUMENT

The examiner's rejections are not in accordance with 35 U.S.C. §103(a), and established precedent. It is well-settled that "[w]hen applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

(A) The claimed invention must be considered as a whole;

(B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined."[21]

Moreover, "[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure."[22] The examiner has not met these requirements.

The examiner's failure to avoid impermissible hindsight reasoning can best be seen when the disclosures of the cited references are considered as they would have appeared to a person of ordinary skill in the art at the time the invention was made, i.e., at a time when applicants' disclosure was not available. Thus, a summary of the disclosure of each cited reference (if not previously summarized) is presented at the outset of each section below.

[21] Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).
[22] MPEP §2143, citing In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

A. The examiner erred in rejecting claims 24, 26, 30, 31 and 41 as obvious over **Fischer et al.** in view of **Sallmetall** and **Yutaka**.

Disclosure of Fischer et al.

In column 1, line 50 to column 2, line 17, Fischer et al. disclose a thermoplastic molding material consisting of an elastomeric grafting base, a shell grafted onto the grafting base, a-tocopherol and a thiodipropionic ester selected from dilauryl and distearyl thiodipropionate. The grafting base is made from at least one alkyl acrylate and at least on polyfunctional crosslinking monomer. The grafting shell is made of a vinylaromatic monomer, preferably styrene or alkylstyrene, and at least one polar, copolymerizable unsaturated monomer, preferably acrylonitrile, methyl acrylate or phenylmeleimide.

Disclosure of Sallmetall et al.:

Sallmetall et al. disclose a three-layer light-transmitting cover foil intended to be arranged adheringly to a surface. The three layers of the cover foil disclosed by Sallmetall et al. are: a first plastically deformable layer comprising for instance polymethyl methacrylate (PMMA), a second dimensionally stable carrier layer comprising for instance PMMA, and a third meltable and thermally-activated layer consisting of a hot-melt layer or glue layer. Sallmetall teaches that these three-layers "are mutually connected by adhesive agents, for instance by making use of co-extrusion."[23]

Disclosure of Yutaka et al. (JP 61-026646)

Yutaka et al. disclose a thermoplastic resin composition having remarkably improved appearance, and high impact resistance, made by compounding a polycarbonate resin to an "AAS-resin"[24] prepared by using a specific crosslinked acrylic rubber having a multi-layered structure.[25]

[23] Page 2, indicated lines 14 – 16 of Sallmetall et al. (WO 96/09928).
[24] Abstract: line 4 of Yutaka et al. (JP 61-026646).
[25] Abstract Yutaka et al. (JP 61-026646).

Failure to teach or suggest the physical characteristics of component A

This combination of references fails to teach or suggest the required physical characteristics of the graft copolymer (component A) as required in the claimed laminated sheet or film, i.e., that the graft copolymer component must have a "mean particle size of 50 – 1000 nm."[26] The examiner has disregarded this feature of the claimed invention. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[27]

Failure to teach or suggest a laminated sheet or film comprising (co)extruded layers:

The Fischer et al. reference is directed to a thermoplastic molding material per se. The claimed invention is directed to a laminated sheet or film comprising (co)extruded layers. The examiner has disregarded this claim requirement, and has pointed to no teaching, suggestion or motivation for a person of ordinary skill in the art to utilize the thermoplastic molding material of Fischer et al. as one of several (co)extruded layers in a laminated sheet or film. Neither Sallmetall et al. nor Yutaka et al. compensate for this shortcoming. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[28]

In fact, Fischer et al. actually teach away from the utilization of the disclosed thermoplastic molding material as a (co)extruded layer of a laminated sheet or film, stating that "[t]he novel molding materials are suitable for the production of moldings...."[29] Neither Sallmetall et al. nor Yutaka et al. provide any teaching, suggestion or motivation to utilize the thermoplastic molding material as a (co)extruded layer of a laminated sheet or film. Thus, there was clearly no teaching suggestion or motivation to modify the disclosure to provide a laminated sheet or film comprising

[26] Claim 24 of the present application.
[27] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[28] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[29] Column 4, indicated lines 46 – 47 of Fischer et al. (US 5,747,568).

(co)extruded layers, and the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness ... there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings."[30]

Failure to teach or suggest all of the (co)extruded layers:

The Examiner concedes that the Fischer et al. reference "does not teach that the molding material may be overlaid with a PMMA transparent top layer and a transparent protective film."[31] In fact, Fischer et al. actually teach away from the utilization of any type of top layer stating that

> [t]he novel molding materials are suitable for the production of moldings, in particular of window profiles, garden furniture, boats, signs, lamp coverings and automotive parts. The novel molding materials are particularly suitable for the production of moldings which have to have high impact strength in combination with good weather resistance and aging resistance.[32]

Thus, no teaching suggestion or motivation existed to prompt a person of ordinary skill in the art to provide a PMMA transparent top layer or a transparent protective film, because Fischer et al. taught that no such top layer or transparent protective film was necessary. Thus, the examiner has considered only portions of the cited references to construct the rejection failing to examine them as a whole. The Federal Circuit in *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143, n.5 (Fed. Cir. 1986) stated that "references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination." In this regard, the Examiner examined only parts of the cited art references picking and choosing only disclosures allegedly favorable for establishing prima facie obviousness.

The examiner has also failed to consider the invention as a whole. It is well settled that "[i]n determining the differences between the prior art and the claims, the

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[30] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[31] Page 3, line 3 – 4 of the Office Action dated 09/28/2006.
[32] Column 4, indicated lines 46 – 52 of Fischer et al. (US 5,747,568).

question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious."[33] Yet, the examiner has argued that "the taught dimensionally stable carrier layer [of Sallmetall et al.] reads on Applicant's claimed 'transparent top layer of PMMA,'"[34] and that

> [i]t would have been obvious to one of ordinary skill in the art to utilize the cover film taught in Sallmetall on the sign taught in Fischer in order to protect the sign and provide the sign with the desired texturing and patterning.[35]

In other words, the examiner has actually argued that it would have been obvious to adheringly apply (i.e., to stick) the cover foil disclosed in Sallmetall et al. on a sign made of the molding material disclosed in Fischer et al. Assuming *in arguendo* that the examiner's argument is correct, the claimed invention has not been obviated. The claimed invention is much more than a cover foil "arranged adheringly" to the surface of a formed lump of thermoplastic molding material. The invention is directed to a laminated sheet or film comprising the following (co)extruded layers: a substrate layer, a transparent top layer of PMMA, and optionally a (co)extruded interlayer. This combination of references never teaches, suggests, or motivates the production of such a laminated sheet or film.

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C):

Fischer et al. do not teach or suggest the inclusion of polycarbonate (component C) in the disclosed thermoplastic molding material, and thus certainly do not teach or suggest the inclusion of polycarbonate in a (co)extruded substrate layer of a laminated sheet or film. The examiner admits that Fischer et al. when taken alone fails to disclose all of the components of the substrate layer of the claimed laminated sheet or film, which requires "10 – 80 % by weight of component C, which is a polycarbonate."[36] Yet, the examiner argues that "it would have been obvious to one of ordinary skill in the art at the

[33] MPEP §2141.02, citing: *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).
[34] Page 3, lines 11 – 13 of the Office Action dated 09/28/2006.
[35] Page 3, lines 16 – 18 of the Office Action dated 09/28/2006.
[36] Claim 24 of the present application.

time the invention was made to compound the core/shell graft copolymer taught in Fischer with 5 – 95 wt % polycarbonate,"[37] because Yutaka (JP 61-026646) "teaches that the appearance and high impact resistance of a core/shell graft copolymer may be improved by compounding it with 5 – 95 wt % polycarbonate."[38]

In other words, the examiner has argued that Yutaka et al.'s disclosure made it obvious to utilize polycarbonate in Fischer et al.'s thermoplastic molding composition. The examiner has not even attempted to demonstrate that it would have been obvious to improve the appearance and high impact resistance of a (co)extruded substrate layer by including polycarbonate.

Again, the examiner has impermissibly cherry-picked distinct aspects from the cited references to construct the rejection, failing to examine them as a whole. Yutaka et al. teach that the addition of polycarbonate to a molding composition can increase its appearance and impact stability. Lacking the present application as a guide, a person of ordinary skill in the art at the time the invention was made would have been provided with no teaching, suggestion or motivation that the combination of a substrate layer comprising components A, B, C and optionally D, as claimed in claim 24, and a transparent top layer of polymethylmethacrylate, and optionally, between the top layer and the substrate layer, a coextruded interlayer, in which polycarbonate is added to the substrate layer, would give rise to a better appearance and higher impact strength of the laminated sheet or film. Yutaka et al. do not disclose or suggest that an elaborate structure like the claimed laminated sheet or film can be improved by the addition of polycarbonate to one layer of the structure. Indeed, Yutaka et al. do not even contemplate a laminated sheet or film. Consequently, one having ordinary skill in the art of laminates would not have looked to Yutaka et al., which relates to a molding composition, in order to learn how to develop a laminated sheet or film as claimed.

This combination of references does not teach all of the claimed features and provides no teaching, suggestion or motivation with a reasonable expectation of success to modify the references to arrive at all of the claimed features. The examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case

[37] Page 3, line 22 through page 4, line 2 of the Office Action dated 09/28/2006.
[38] Page 3, line 20 – 22 of the Office Action dated 09/28/2006.

of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[39]

Since a *prima facie* case of obviousness has not been established, a showing of unexpected results is in no way necessary, however, applicants have demonstrated results that would have been unexpected by one having ordinary skill in the art of laminates. Applicants have demonstrated in table 2 of the Specification that the penetration energy of sheets practiced according to the present invention is unexpectedly increased when a (co)extruded layer of polycarbonate is utilized as 10 – 80% by weight of the substrate layer. The penetration energy of sheets without polycarbonate is 10.6 Nm. The penetration energy of sheets practiced according to the present invention is between 21.3 and 31.7 Nm. This result would have been unexpected by one having ordinary skill in the art of laminates.

Regarding these unexpected results, the examiner has acknowledged that the showing does not have to be over the entire range, but has argued that applicants' showing of unexpected results does not "enable one of ordinary skill in the art to determine a trend in the exemplified data which would allow the artisan to reasonably extend the probative value thereof to the entirety of the claimed range."[40] The examiner's assertion is erroneous.

Table 2 demonstrates a clear trend that the presence of polycarbonate in the inventive laminated sheets or films results in improved penetration energy. The magnitude of this improvement coupled with the disclosure of the application when considered as a whole is enough to enable one having ordinary skill in the art of laminates to extend the trend of unexpected results over the entirety of the claimed range of 10 – 80 % by weight of polycarbonate.

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[39] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[40] Page 17, lines 12 – 14 of the Office Action dated 09/28/2006.

Regarding the dependent claims:

Finally, "[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious."[41] Since claim 24 is nonobvious over this combination of references, claims 26, 30 and 31, which depend from claim 24 are also nonobvious.

B. The examiner erred in rejecting claims 24, 26, 30, 31, 34 and 41 as obvious over **Fischer et al.** in view of **Ellison** and **Yutaka**.

Disclosure of Ellison (US5,985,079):

Ellison discloses a flexible composite surfacing film and a method for producing a flexible composite surfacing film. Ellison's composite surface film comprises a flexible temporary carrier film and a flexible transparent outer polymer clear coat layer bonded to the carrier film.

Failure to teach or suggest the physical characteristics of component A

This combination of references fails to teach or suggest the required physical characteristics of the graft copolymer (component A) as required in the claimed laminated sheet or film, i.e., that the graft copolymer component must have a "mean particle size of 50 – 1000 nm."[42] The examiner has disregarded this feature of the claimed invention. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[43]

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C):

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[41] MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).
[42] Claim 24 of the present application.
[43] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The modification and combination of Fischer et al. and Yutaka et al. does not teach all of the claimed features and provides no teaching, suggestion or motivation with a reasonable expectation of success to modify the references to arrive at all of the claimed features. As discussed above, the examiner has not even attempted to demonstrate that it would have been obvious to improve the appearance and high impact resistance of a (co)extruded substrate layer by including polycarbonate. Ellison does not compensate for this shortcoming. Thus, a *prima facie* case of obviousness has not been established.

Regarding the dependent claims:

Finally, "[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious."[44] Since claim 24 is nonobvious over this combination of references, claims 26, 30, 31 and 34, which depend from claim 24 are also nonobvious.

C. The examiner erred in rejecting claims 24, 26, 31 and 41 as obvious over **Fischer et al.** in view of **Endoh** and **Yutaka;** Claim 30 also stands rejected as allegedly being obvious over this combination of references in further view of **Tsai et al.**

Disclosure of Endoh et al. (EP006421):

Endoh et al. disclose that an extrusion laminated product can be obtained by coextrusion of at least three layers, wherein at least one of the surface layers comprises polyvinilidene fluoride, the substrate layer comprises either polyvinylidene and the substrate layer comprises a thermoplastic layer, made of an conventional thermoplastic resin like polyvinyl chloride resin, a polycarbonate resin or an acrylonitrile-butadient-styrene resin.

Failure to teach or suggest the physical characteristics of component A

This combination of references fails to teach or suggest the required physical characteristics of the graft copolymer (component A) as required in the claimed

[44] MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

laminated sheet or film, i.e., that the graft copolymer component must have a "mean particle size of 50 – 1000 nm."[45] The examiner has disregarded this feature of the claimed invention. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[46]

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C):

The modification and combination of Fischer et al. and Yutaka et al. does not teach all of the claimed features and provides no teaching, suggestion or motivation with a reasonable expectation of success to modify the references to arrive at all of the claimed features. As discussed above, the examiner has not even attempted to demonstrate that it would have been obvious to improve the appearance and high impact resistance of a (co)extruded substrate layer by including polycarbonate. Endoh does not compensate for this shortcoming. Thus, a *prima facie* case of obviousness has not been established.

Failure to consider Endoh et al. (EP006421) as a whole:

As discussed above, the examiner has impermissibly cherry-picked distinct aspects from the cited references to construct the rejection failing to examine them as a whole. Accordingly, this combination of references is contrary to 35 U.S.C. §103(a), the MPEP and established Federal Circuit precedent.

Regarding the dependent claims:

"If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious."[47] Since claim 24 is nonobvious over this combination of references, claims 26 and 31, which depend from claim 24 are also nonobvious.

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[45] Claim 24 of the present application.
[46] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[47] MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Finally, regarding Claim 30, which also stands rejected as allegedly being obvious over this combination of references in further view of **Tsai et al. (US 5,858,550)**: the examiner cites Tsai et al. only because of the disclosure in "column 7, lines 51+,"[48] alleging that Tsai et al. disclose that "the constituents used to form a coextruded sheet should have melt properties that are substantially similar to one another." This teaching in no way compensates for the shortcomings of the rejection of claim 24 as already discussed. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious."[49] Since claim 24 is nonobvious over this combination of references, claim 30 which depends from claim 24 is also nonobvious.

D. The examiner erred in rejecting claim 43 as obvious over **Fischer et al.** in view of **Zabrocki et al.** or **McDonagh** and **Yutaka**.

Disclosure of Zabrocki et al. (US 5,306,548)

Zabrocki et al. relates to coextruded weatherable film structures and laminates. The coextruded weatherable film for lamination to an underlying non-weatherable substrate includes for example a two-layer film structure. The top layer may be a styrene/acrylonitrile copolymer (SAN).[50] However, rubber reinforced styrene/acrylonitrile copolymers like AES or ASA are preferred as a top layer. The composition of the top layer may be blended with various weather resistant polymer materials, for example PVC.[51] The second layer functions as a layer which ties or bonds together the outer weatherable (top) layer to a layer substrate.[52] The coextruded thermoplastic second layer may include CPE, styrenic diblock or triblock polymers, copolyamide adhesives, polyester adhesives, polyurethane adhesive, PVC and mixtures thereof.[53]

Disclosure of McDonagh (US 4,169,180

[48] Page 11, lines 5 – 6 of of the Office Action dated 09/28/2006.
[49] MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).
[50] Column 3, line 47 of Zabrocki et al. US 5,306,548.
[51] Column 3, line 40 – 51 of Zabrocki et al. US 5,306,548.
[52] Column 4, line 46 – 49 of Zabrocki et al. US 5,306,548.
[53] Column 4, line 55 – 59 of Zabrocki et al. US 5,306,548.

McDonagh relates to a resin laminate having a protective layer. The laminate is composed of a base layer and a protective top layer.[54] The base layer may be an ABS or HIPS copolymer.[55] The top layer is a copolymer composed of cross-linked (meth)acrylate, cross-linked styrene-acrylonitrile and uncross-linked styrene-acrylonitrile. It may be prepared by emulsion polymerizing alkylacrylates, then grafting with styrene and acrylonitrile together with a cross-linker and finally polymerizing with styrene and acrylonitrile in the absence of cross-linking agents.[56] Thus, the top layer or protective layer comprises the cross-linked acrylates, cross-linked styrene-acrylonitrile and uncross-linked styrene-acrylonitrile in the amounts given in column 2, lines 38 to 45. In other words, the top layer or protective layer is an ASA copolymer. Thus, the McDonagh reference discloses a laminated sheet or film having an ASA top layer and an ABS or HIPS substrate layer.

Failure to teach or suggest the physical characteristics of component A

This combination of references fails to teach or suggest the required physical characteristics of the graft copolymer (component A) as required in the claimed laminated sheet or film, i.e., that the graft copolymer component must have a "mean particle size of 50 – 1000 nm."[57] The examiner has disregarded this feature of the claimed invention. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[58]

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C):

The modification and combination of Fischer et al. and Yutaka et al. does not teach all of the claimed features and provides no teaching, suggestion or motivation with a reasonable expectation of success to modify the references to arrive at all of the claimed

[54] Column 1, lines 54 – 64 of McDonagh US 4,169,180.
[55] Column 2, lines 5 to 6 of McDonagh US 4,169,180.
[56] Column 2, lines 16 to 38 of McDonagh US 4,169,180.
[57] Claim 24 of the present application.
[58] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

features. As discussed above, the examiner has not even attempted to demonstrate that it would have been obvious to improve the appearance and high impact resistance of a (co)extruded substrate layer by including polycarbonate. Zabrocki et al. and McDonagh do not compensate for this shortcoming. Thus, a *prima facie* case of obviousness has not been established.

E. The examiner erred in rejecting claims 24, 26, 30, 31 and 41 as obvious over **Rosenau et al.** in view of **Ellison**.

Disclosure of Rosenau et al. (US 5,821,302):

Rosenau et al. disclose shaped articles from thermoplastic molding materials containing as component A 50 to 100% by weight of a thermoplastic polymer of styrene compound, optionally (meth)acrylonitrile and optionally one or more further monoethylenically unsaturated monomers, as component B 0.1 to 70% by weight of a graft polymer comprising from 30 to 90% by weight of an elastomeric graft core obtainable from an C_1-C_{10}-alkyl ester of acrylic ester, a crosslinking monomer, and optionally of one or more monoethylenically unsaturated monomers, a graft shell comprising a styrene compound, optionally (meth)acrylonitrile, and optionally one or more further monoethylenically unsaturated monomers, and as component C a particulate polymer composed of an elastomeric graft polymer containing a graft core made from butadiene and a graft shell made from styrene and acrylonitrile, or a hard polymer based on polyalkyl methacrylates or a polymer which is incompatible or partially incompatible with mixtures containing components A and B, or a graft polymer, as defined under component B, but having a different particle size.

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C):

This combination of references fails to teach or suggest all of the claimed features. Neither Rosenau et al. nor Ellison teach or suggest the use of polycarbonate. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references

when combined) must teach or suggest all the claim limitations."[59]

Regarding the dependent claims:

Finally, "[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious."[60] Since claim 24 is nonobvious over this combination of references, claims 26, 30 and 31, which depend from claim 24 are also nonobvious.

F. The examiner erred in rejecting claims 24, 26, 30 and 31 as obvious over **Rosenau et al.** in view of **Trabert et al.**

General Disclosure of Trabert et al. (US 5,318,737):

Trabert et al. relates to a plastic composite formed by feedblcok coextrusion and comprising capstock overlying and integrally bonded to an underlying structural plastic ply, the capstock composition comprising: (A) from about 40 to about 88 wt. % of a thermoplastic resin having a molecular weight of at least about 125,000 daltons, and selected from the group consisting of methyl methacrylate and a C1 to C4 alkyl acrylate; and (B) from about 12 to about 60 wt. % of an acrylate-based impact-modifier resin in the form of discrete particles; wherein said composition has a melt flow index of from about 0.4 to about 0.75 ad where the discrete particles are dispersed in the thermoplastic resin which constitutes a continuous phase of said composition.

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C):

This combination of references fails to teach or suggest all of the claimed features. Neither Rosenau et al. nor Trabert et al. teach or suggest the use of polycarbonate. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim

[59] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[60] MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

limitations."[61]

Regarding the dependent claims:

Finally, "[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious."[62] Since claim 24 is nonobvious over this combination of references, claims 26 and 30, which depend from claim 24 are also nonobvious.

G. The examiner erred in rejecting claims 24, 26, 30, 31 and 41 as obvious over **Rosenau et al.** in view of **Endoh**.

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C):

This combination of references fails to teach or suggest all of the claimed features. Neither Rosenau et al. nor Endoh et al. teach or suggest the use of polycarbonate. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[63]

Failure to consider Endoh et al. (EP006421) as a whole:

The examiner has impermissibly cherry-picked distinct aspects from the cited references to construct the rejection failing to examine them as a whole. The Federal Circuit in *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143, n.5 (Fed. Cir. 1986) stated that "references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination." In this regard, the Examiner examined only parts of the cited art references picking and choosing only disclosures allegedly favorable for establishing prima facie obviousness.

The cited art fails to teach the specific components A, B and C in the substrate

[61] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).
[62] MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).
[63] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

layer in addition to a top layer of PMMA or SAN – all without fluorinated polymers. Endoh et al. teaches fluorinated polymers. Thus, even with the benefit of impermissible hindsight, Rosenau et al. and Endoh et al. cannot be combined to arrive at the claimed invention without violating the established principle that:

> It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art.[64]

Accordingly, it is respectfully submitted that this combination of references is contrary to 35 U.S.C. §103(a), the MPEP and established Federal Circuit precedent.

Regarding the dependent claims:

Finally, "[i]f an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious."[65] Since claim 24 is nonobvious over this combination of references, claims 26, 30, and 31 which depend from claim 24 are also nonobvious.

H. The examiner erred in rejecting claim 43 as obvious over **Rosenau et al.** in view of **Zabrocki et al. or McDonagh**.

Failure to teach or suggest a (co)extruded substrate layer which includes polycarbonate (component C)

This combination of references fails to teach or suggest all of the claimed features. Neither Rosenau et al., Zabrocki et al., nor McDonagh teach or suggest the use of polycarbonate. Thus, the examiner has failed to establish a *prima facie* case of obviousness, because "[t]o establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations."[66]

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[64] *Bausch & Lomb, Inc., v. Barnes-Hind/Hydrocurve, Inc.*, 796, F.2d 443, 448 (Fed. Cir. 1986) (quoting *In re Wesslau*, 355 F. 2d 238, 241 (CCPA 1965).
[65] MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).
[66] MPEP §2143, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

CLAIMS APPENDIX.

1-23. (canceled)

24. A laminated sheet or film comprising the following (co)extruded layers:

a substrate layer comprising - based on the sum of the amounts of the following components A, B and C and, if used, D, which totals 100% by weight -

1 - 99% by weight component A, which is of a graft copolymer of

55 - 80% by weight of a particulate graft base A1 comprising the following monomers:

95-99.9% by weight of at least one C_{1-8}-alkyl ester of acrylic acid as component A11;

0.1-5.0% by weight of at least one polyfunctional crosslinking monomer as component A12;

20 - 45% by weight of a graft A2 comprising the following monomers, based on A2:

60 - 85% by weight of units of styrene, a substituted styrene or a (meth)acrylate, or mixtures thereof, as component A21 and

15-35% by weight of units of acrylonitrile or methacrylonitrile as component A22;

the graft A2 comprising at least one graft shell and the graft copolymer having a mean particle size of 50 - 1000 nm;

1 - 99% by weight of component B, which is a copolymer of

60 – 85% by weight of units of styrene, a substituted styrene or a (meth)acrylate, or mixtures thereof, as component B1, and

15 – 40% by weight of acrylonitrile or methacrylonitrile as component B2;

10 - 80% by weight of component C, which is a polycarbonate; and

0 - 50% by weight of component D, which is a fibrous or particulate filler or mixtures thereof;

a transparent top layer of polymethyl methacrylate

and optionally,

between the top layer and the substrate layer,

an (co)extruded interlayer of impact-modified polymethyl methacrylate, polycarbonate or a molding composition of said substrate layer without polycarbonate, if said substrate layer contains polycarbonate.

25. (canceled)

26. A laminated sheet or film as defined in claim 24, having an overall thickness of from 100 μm to 10 mm.

27-29. (canceled)

30. A laminated sheet or film as defined in claim 24, wherein the ratio of the MFI values of the individual components of the laminated sheet or film is not more than 3:1.

31. A molding comprising a shaped laminated sheet as defined in claim 24.

32-33. (canceled)

34. A molding as defined in claim 31 in the form of an automotive exterior bodywork component.

35-40. (canceled)

41. A laminated sheet or film comprising the following (co)extruded layers:

a substrate layer comprising - based on the sum of the amounts of the following components A, B and C and, if used, D, which totals 100% by weight -

1 - 99% by weight component A, which is of a graft copolymer of

55 – 80% by weight of a particulate graft base A1 comprising the following monomers:

95 – 99.9%_by weight of at least one C_{1-8}-alkyl ester of acrylic acid as component A11;

0.1 – 5.0% by weight of at least one polyfunctional crosslinking monomer as component A12;

20 – 45% by weight of a graft A2 comprising the following monomers, based on A2:

60 – 85% by weight of units of styrene, a substituted styrene or a (meth)acrylate, or mixtures thereof, as component A21 and

15 – 35% by weight of units of acrylonitrile or methacrylonitrile as component A22;

the graft A2 comprising at least one graft shell and the graft copolymer having a mean particle size of 50 - 1000 nm;

1 - 99% by weight of component B, which is a copolymer of

60 – 85% by weight of units of styrene, a substituted styrene or a (meth)acrylate, or mixtures thereof, as component B1, and

15 – 40% by weight of acrylonitrile or methacrylonitrile as component B2;

10 - 80% by weight of component C, which is a polycarbonate; and

0 - 50% by weight of component D, which is a fibrous or particulate filler or mixtures thereof;

a transparent layer of polymethyl methacrylate and a transport protection film applied to the outside of said layer of polymethyl methacrylate.

42. (canceled)

43. A laminated sheet or film comprising the following (co)extruded layers:

a substrate layer comprising - based on the sum of the amounts of the following components A, B and C and, if used, D, which totals 100% by weight -

1 - 99% by weight component A, which is of a graft copolymer of

55 – 80% by weight of a particulate graft base A1 comprising the following monomers:

95 – 99.9% by weight of at least one C_{1-8}-alkyl ester of acrylic acid as

component A11;

0.1 – 5.0% by weight of at least one polyfunctional crosslinking monomer as component A12;

20 – 45% by weight of a graft A2 comprising the following monomers, based on A2:

60 – 85% by weight of units of styrene, a substituted styrene or a (meth)acrylate, or mixtures thereof, as component A21 and

15 – 35% by weight of units of acrylonitrile or methacrylonitrile as component A22;

the graft A2 comprising at least one graft shell and the graft copolymer having a mean particle size of 50 - 1000 nm;

1 - 99% by weight of component B, which is a copolymer of

60 – 85% by weight of units of styrene, a substituted styrene or a (meth)acrylate, or mixtures thereof, as component B1, and

15 – 40% by weight of acrylonitrile or methacrylonitrile as component B2;

10 - 80% by weight of component C, which is a polycarbonate; and

0 - 50% by weight of component D, which is a fibrous or particulate filler or mixtures thereof;

a transparent top layer of styrene-acrylonitrile copolymer,

and optionally

an (co)extruded interlayer of a styrene-acrylonitrile copolymer.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.